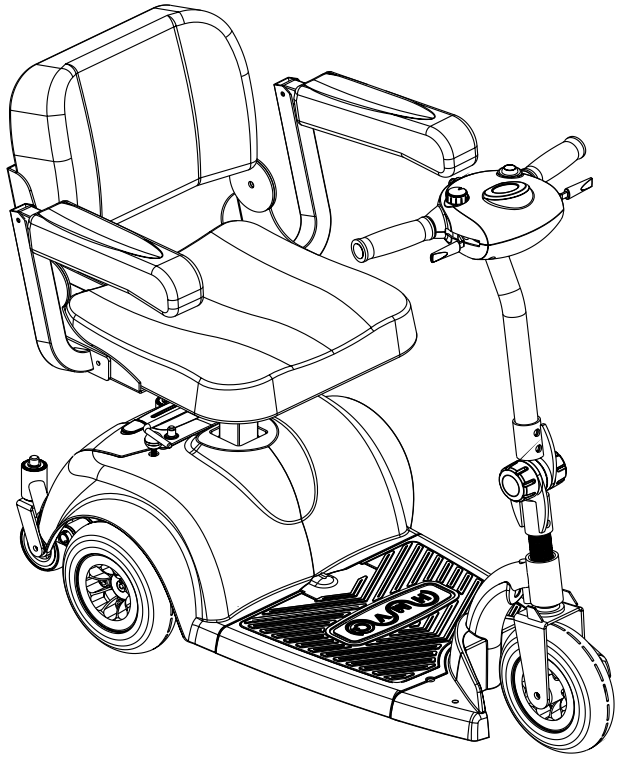
Owner's Operator and Maintenance Manual

HMV™ Highly Maneuverable Vehicle

Zoom 220



DEALER: This manual MUST be given to the user of the wheelchair.

USER: BEFORE using this wheelchair, read this manual and save for future reference.

For more information regarding Invacare products, parts, and services, please visit www.invacare.com

INVACARE®

Yes, you can.™

⚠ WARNING

POWERED SCOOTER USERS: DO NOT SERVICE OR OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THE OWNER'S OPERATOR AND MAINTENANCE MANUAL. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS, AND INSTRUCTIONS, CONTACT INVACARE TECHNICAL SUPPORT BEFORE ATTEMPTING TO SERVICE OR OPERATE THIS EQUIPMENT - OTHERWISE INJURY OR DAMAGE MAY RESULT.

PROCEDURES OTHER THAN THOSE DESCRIBED IN THIS MANUAL MUST BE PERFORMED BY A QUALIFIED TECHNICIAN.

DEALERS AND QUALIFIED TECHNICIANS: DO NOT SERVICE OR OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING (1) THE OWNER'S OPERATOR AND MAINTENANCE MANUAL AND (2) THE SERVICE MANUAL (IF APPLICABLE). IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS AND INSTRUCTIONS, CONTACT INVACARE TECHNICAL SUPPORT BEFORE ATTEMPTING TO SERVICE OR OPERATE THIS EQUIPMENT - OTHERWISE, INJURY OR DAMAGE MAY RESULT.

NOTE: Updated versions of this manual are available on www.invacare.com.

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REGISTER YOUR PRODUCT

The benefits of registering:

1. Safeguard your investment.
2. Ensure long term maintenance and servicing of your purchase.
3. Receive updates with product information, maintenance tips, and industry news.
4. Invacare can contact you or your provider, if servicing is needed on your product.
5. It will enable Invacare to improve product designs based on your input and needs.

Register ONLINE at www.invacare.com
- or -
Complete and mail the form on the next page

Any registration information you submit will be used by Invacare Corporation only, and protected as required by applicable laws and regulations.

PRODUCT REGISTRATION FORM

Register ONLINE at www.invacare.com - or -
Complete and mail this form

Name _____

Address _____

City _____ **State/Province** _____

Zip/Postal Code _____

Email _____ **Phone No.** _____ Fold here

Invacare Model No. _____ **Serial No.** _____

Purchased From _____ **Date of Purchase:** _____

1. Method of purchase: (check all that apply)
❑ Medicare ❑ Insurance ❑ Medicaid ❑ Other _____

2. This product was purchased for use by: (check one)
❑ Self ❑ Parent ❑ Spouse ❑ Other

3. Product was purchased for use at:
❑ Home ❑ Facility ❑ Other

4. I purchased an Invacare product because:
❑ Price ❑ Features (list features) _____

5. Who referred you to Invacare products? (check all that apply)
❑ Doctor ❑ Therapist ❑ Friend ❑ Relative ❑ Dealer/Provider ❑ Other_____
❑ Advertisement (circle one): TV, Radio, Magazine, Newspaper ❑ No Referral_____

6. What additional features, if any, would you like to see on this product?

_____ Fold here

7. Would you like information sent to you about Invacare products that may be available for a particular medical condition? ❑ Yes ❑ No
If yes, please list any condition(s) here and we will send you information by email and/or mail about any available Invacare products that may help treat, care for or manage such condition(s):

_____

8. Would you like to receive updated information via email or regular mail about the Invacare home medical products sold by Invacare's dealers? ❑ Yes ❑ No

9. What would you like to see on the Invacare website?

_____

10. Would you like to be part of future online surveys for Invacare products? ❑ Yes ❑ No

11. User's Year of birth: _____

If at any time you wish not to receive future mailings from us, please contact us at Invacare Corporation, CRM Department, 39400 Taylor Parkway, Elyria, OH 44035, or fax to 877-619-7996 and we will remove you from our mailing list.

To find more information about our products, visit www.invacare.com.

Cut Along Line

Fold here

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 196 ELYRIA OH

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INVACARE CORPORATION
CRM DEPARTMENT
39400 TAYLOR PARKWAY
ELYRIA OH 44035-9836

Fold here

Invacare Product Registration Form

Please Seal with Tape Before Mailing

Cut Along Line

SPECIAL NOTES

WARNING/CAUTION notices as used in this manual apply to hazards or unsafe practices which could result in personal injury or property damage.

NOTICE

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

As a manufacturer of powered scooters, Invacare endeavors to supply a wide variety of powered scooters to meet many needs of the end user. However, final selection of the type of powered scooter to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection.

TIE-DOWN RESTRAINTS AND SEAT RESTRAINTS

Powered scooter users should NOT be transported in vehicles of any kind while in the powered scooter. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a powered scooter, in a moving vehicle of any type.

It is Invacare's position that users of powered scooters should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any powered scooter transportation systems.

SEAT POSITIONING STRAP

It is the obligation of the Dealers, Therapists and other Healthcare Professionals to determine if a seating positioning strap is required to ensure the safe operation of this equipment by the user. Serious injury can occur in the event of a fall from a powered scooter.

⚠ WARNING

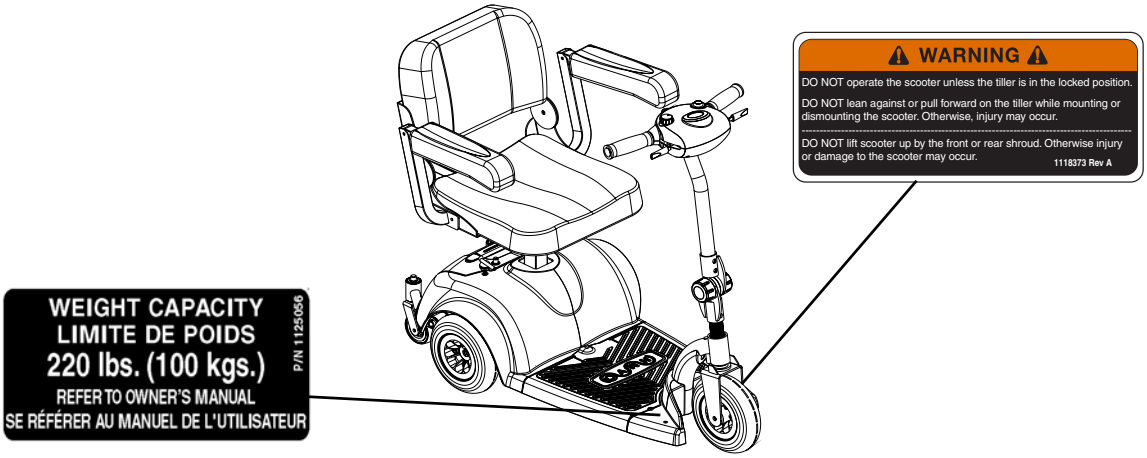
The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, belt MUST be replaced immediately.

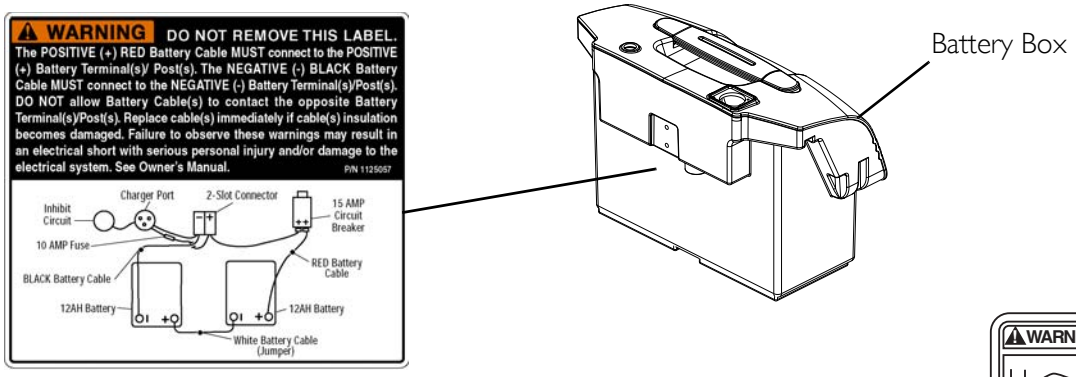
Invacare products are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.

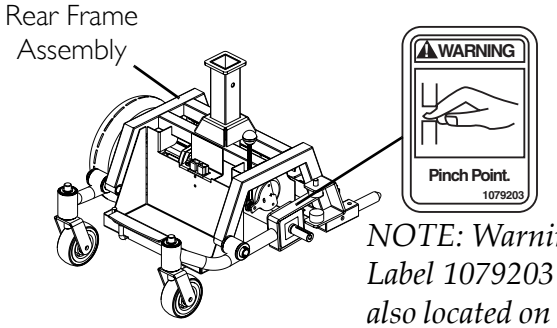
TYPICAL PRODUCT PARAMETERS

	ZOOM 220
OVERALL DIMENSIONS	
BASE LENGTH:	39 inches
BASE WIDTH:	19.5 inches
STEP HEIGHT (Floor Pan to Ground):	3.25 inches
SEAT HEIGHT (Floor Pan to Seat Cushion)	
Deluxe Seat:	16-18 inches
Padded Seat:	15-17 inches
SEAT DIMENSIONS	
WIDTH:	15 inches
DEPTH:	15 inches
BACK HEIGHT:	13 inches
ARM DIMENSIONS	
LENGTH:	11 inches
HEIGHT BETWEEN SEAT AND ARMS:	8 inches
WIDTH BETWEEN ARMS:	16.75 inches
SPEED RANGE	0 - 4.1 m.p.h. (Factory setting - 3.8 m.p.h.)
MAXIMUM INCLINE CAPABILITY	8° Grade
WHEELS	
FRONT WHEEL:	8 inches x 2 inches
DRIVE WHEEL:	8 inches x 2 inches
TURNING RADIUS:	27 inches
WEIGHT OF PRODUCT	
FRONT BASE SECTION:	23 lbs
REAR BASE SECTION:	44 lbs
PADDED SEAT:	12 lbs
DELUXE SEAT:	23 lbs
BATTERY BOX:	21 lbs
OFF BOARD CHARGER:	1 lbs
TOTAL WEIGHT OF PRODUCT	
With Padded Seat:	100 lbs
With Deluxe Seat:	111 lbs
MAXIMUM WEIGHT LIMITATION	220 lbs

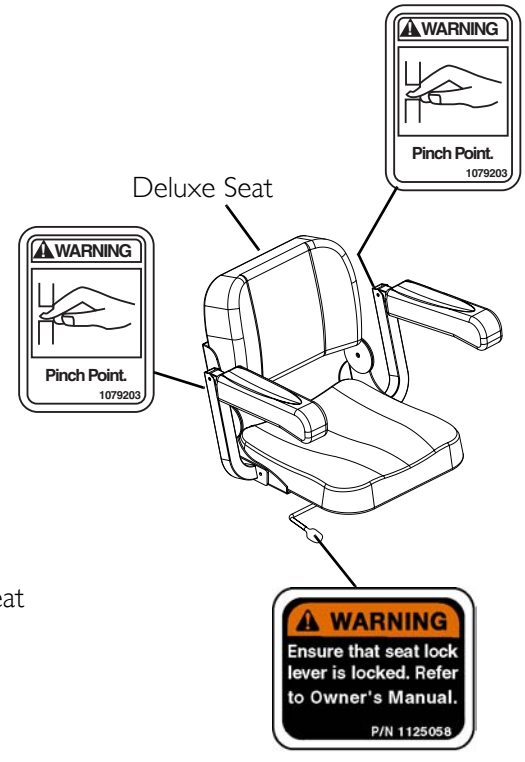
LABEL LOCATIONS


WARNING
DO NOT operate the scooter unless the tiller is in the locked position.
DO NOT lean against or pull forward on the tiller while mounting or dismounting the scooter. Otherwise, injury may occur.
DO NOT lift scooter up by the front or rear shroud. Otherwise injury or damage to the scooter may occur.
1118373 Rev A
WEIGHT CAPACITY
LIMITE DE POIDS
220 lbs. (100 kgs.)
REFER TO OWNER'S MANUAL
SE RÉFÉRER AU MANUEL DE L'UTILISATEUR
P/N 1125056

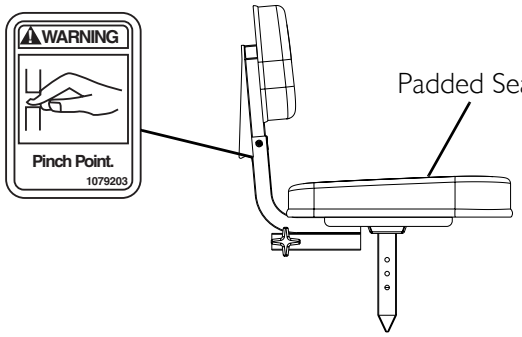

WARNING DO NOT REMOVE THIS LABEL.
The POSITIVE (+) RED Battery Cable MUST connect to the POSITIVE (+) Battery Terminal(s)/ Post(s). The NEGATIVE (-) BLACK Battery Cable MUST connect to the NEGATIVE (-) Battery Terminal(s)/Post(s). DO NOT allow Battery Cable(s) to contact the opposite Battery Terminal(s)/Post(s). Replace cable(s) immediately if cable(s) insulation becomes damaged. Failure to observe these warnings may result in an electrical short with serious personal injury and/or damage to the electrical system. See Owner's Manual.
P/N 1125057
Charger Port
2-Slot Connector
Inhibit Circuit
15 AMP Circuit Breaker
10 AMP Fuse
RED Battery Cable
BLACK Battery Cable
12AH Battery
12AH Battery
White Battery Cable (Jumper)
Battery Box



NOTE: Warning Label 1079203 is also located on the other swingarm.



NOTE: Warning Label 1125058 is on the Deluxe Seat Option ONLY.



SECTION 1—GENERAL GUIDELINES

⚠ WARNING

SECTION 1 - GENERAL GUIDELINES contains important information for the safe operation and use of this product. DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as Owner's Manuals, Service Manuals or Instruction Sheets supplied with this product or optional equipment. If you are unable to understand the Warnings, Cautions or Instructions, contact a healthcare professional, dealer or technical personnel before attempting to use this equipment - otherwise, injury or damage may occur.

Repair or Service Information

Set-up of the Electronic Control Unit is to be performed ONLY by individuals qualified by Invacare. The final adjustments of the controller may affect other activities of the powered scooter. Damage to the equipment could occur under these circumstances. If non-certified individuals perform any work on these units, the warranty is void.

DO NOT service or adjust your powered scooter while occupied, unless otherwise noted.

Operation Information

Invacare products are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.

Performance adjustments should only be made by professionals of the healthcare field or persons fully conversant with this process and the driver's capabilities. Incorrect settings could cause injury to the driver, bystanders and damage to the scooter and to surrounding property.

BEFORE using the scooter, verify that the motor is plugged into the harness.

DO NOT connect any medical devices such as ventilators, life support machines, etc., to the battery. This could cause unexpected failure of the device and the powered scooter.

DO NOT operate the powered scooter until you have checked that the surroundings are clear and that the area is safe for travel.

DO NOT make sharp turns in the FORWARD or REVERSE direction at excessive speed. Failure to observe the warning can cause the scooter to tip over and may result in injury to user and/or damage to the product.

DO NOT operate on roads, streets or highways.

DO NOT attempt to move up or down an incline with water, ice or oil film.

Avoid operating the scooter in dark or poorly lit areas.

DO NOT climb and/or go UP or DOWN ramps or traverse slopes greater than 8°.

When negotiating ramps, if the throttle control lever is released while in the FORWARD motion, the powered scooter will roll back approximately one (1) foot before the brake engages. If the throttle control lever is released while in the REVERSE motion, the powered scooter will roll back approximately three (3) feet before the brake engages.

DO NOT attempt to drive over curbs or obstacles. Doing so may cause your powered scooter to turn over and cause bodily harm and/or damage to the scooter.

DO NOT use an escalator to move a powered scooter between floors. Serious bodily injury may occur.

Powered scooter with batteries and seat weighs approximately 97-106 lbs. Use proper lifting techniques (lift with your legs) to avoid injury.

Before attempting to sit in or exit the powered scooter, remove the key from the ignition. This will ensure that the power is off and the powered scooter will not drive.

DO NOT remove the key or shut off while the powered scooter is in motion.

Remove the key from the ignition while the powered scooter is not in use so as to avoid injury and/or damage to the scooter and surrounding areas.

DO NOT attempt to lift the powered scooter by any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a powered scooter may result in injury to the user or damage to the powered scooter.

DO NOT attempt to lift the powered scooter by its tiller, seat or shrouds.

DO NOT stand on the frame of the powered scooter.

DO NOT stand on the shroud(s) of the powered scooter.

DO NOT operate the powered scooter without the rear shroud installed, to avoid injury and/or damage to scooter.

BEFORE use, ensure that the frame lock pin is in the locked position securing the front and rear frame assemblies together. Otherwise injury and/or damage may occur.

DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching between your knees.

DO NOT lean over the top of the back upholstery to reach objects from behind, as this may cause the powered scooter to tip over.

DO NOT shift your weight or sitting position toward the direction you are reaching as the powered scooter may tip over.

Do determine and establish your particular safety limits by practicing bending, reaching and transferring activities in the presence of a qualified healthcare professional BEFORE attempting active use of the powered scooter.

For individuals with balance problems, DO NOT attempt to transfer into or out of the powered scooter without assistance. Practice transferring activities with an assistant in the presence of a qualified healthcare professional.

Ensure that the seat is properly locked before use. Otherwise the user may fall from the scooter resulting in bodily harm. Attempting unsafe transfers may cause the user to fall, resulting in serious injury.

Ensure that the seat is locked in the forward position before and during the operation of the scooter. Otherwise, injury to the user and/or damage to the scooter may result.

Ensure that the tiller is properly adjusted before driving the scooter.

After making any tiller angle adjustment and before use, the tiller must be securely locked into position. Otherwise the user may fall from the scooter resulting in bodily harm and/or damage to the scooter. Gently push/pull the tiller to ensure that the tiller is securely engaged.

DO NOT overtighten hardware attaching to the frame. This could cause damage to the frame tubing.

ALWAYS DO keep hands and fingers clear of moving parts to avoid injury.

ALWAYS DO wear your seat positioning strap.

The seat positioning strap is a positioning belt ONLY. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, belt MUST be replaced immediately.

ALWAYS DO check hand grips for looseness before using the powered scooter. If loose and/or worn, replace immediately.

Avoid storing or using the scooter near external flame or combustible products. Serious injury or damage to property may result.

Electrical

Check to ensure that all electrical connections are secure at all times.

Grounding Instructions

DO NOT, under any circumstances, cut or remove the round grounding prong from any plug used with or for Invacare products. Some devices are equipped with three-prong (grounding) plugs for protection against possible shock hazards. Where a two-prong wall receptacle is encountered, it is the personal responsibility and obligation of the customer to contact a qualified electrician and have the two-prong receptacle replaced with a properly grounded three-prong wall receptacle in accordance with the National Electrical Code. If you must use an extension cord, use ONLY a three-wire extension cord having the same or higher electrical rating as the device being connected. In addition, Invacare has placed RED/ORANGE warning tags on some equipment. DO NOT remove these tags.

Batteries

The warranty and performance specifications contained in this manual are based on the use of deep cycle gel cell batteries. Invacare strongly recommends their use as the power source for this unit.

Carefully read battery/battery charger information prior to installing, servicing or operating your powered scooter.

Rain Test

INVACARE has tested its powered scooters in accordance with ISO 7176 "Rain Test". This provides the end user or his/her attendant sufficient time to remove his/her power powered scooter from a rain storm and retain powered scooter operation.

DO NOT leave the powered scooter in a rain storm of any kind.

DO NOT use the powered scooter in a shower.

DO NOT leave the powered scooter in a damp area for any length of time.

Direct exposure to rain or dampness will cause the scooter to malfunction electrically and mechanically; may cause the powered scooter to prematurely rust.

Check to ensure that all electrical connections are secure at all times.

Weight Training

Invacare DOES NOT recommend the use of its powered scooters as a weight training apparatus. Invacare powered scooters have NOT been designed or tested as a seat for any kind of weight training. If occupant uses said powered scooter as a weight training apparatus, Invacare shall NOT be liable for bodily injury and the warranty is void.

Weight Limitation

The weight limitation for the Zoom 220 is 220 lbs.

SECTION 2—EMI INFORMATION

⚠ WARNING

CAUTION: IT IS VERY IMPORTANT THAT YOU READ THIS INFORMATION REGARDING THE POSSIBLE EFFECTS OF ELECTROMAGNETIC INTERFERENCE ON YOUR POWERED WHEELCHAIR.

Electromagnetic Interference (EMI) From Radio Wave Sources

Powered wheelchairs and motorized scooters (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two way radios, and cellular phones. The interference (from radio wave sources) can cause the powered wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered wheelchair's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered wheelchair can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types:

1) **Hand-held Portable transceivers (transmitters-receivers with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "walkie talkie", security, fire and police transceivers, cellular telephones, and other personal communication devices).**

NOTE: Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.

2) **Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances and taxis. These usually have the antenna mounted on the outside of the vehicle; and**

3) **Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.**

NOTE: Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your powered wheelchair.

⚠ WARNING

Powered Wheelchair Electromagnetic Interference (EMI)

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered wheelchair's control system while using these devices. This can affect powered wheelchair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the powered wheelchair.

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered wheelchairs and motorized scooters.

FOLLOWING THE WARNINGS LISTED BELOW SHOULD REDUCE THE CHANCE OF UNINTENDED BRAKE RELEASE OR POWERED WHEELCHAIR MOVEMENT WHICH COULD RESULT IN SERIOUS INJURY.

1) **Do not operate hand-held transceivers (transmitters receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the powered wheelchair is turned ON;**
2) **Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;**
3) **If unintended movement or brake release occurs, turn the powered wheelchair OFF as soon as it is safe;**
4) **Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to EMI (NOTE: There is no easy way to evaluate their effect on the overall immunity of the powered wheelchair); and**
5) **Report all incidents of unintended movement or brake release to the powered wheelchair manufacturer, and note whether there is a source of EMI nearby.**

Important Information

1) **20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994) (the higher the level, the greater the protection);**
2) **This device has been tested to a radiated immunity level of 20 V/m.**

Modification of any kind to the electronics of this wheelchair as manufactured by Invacare may adversely affect the RFI immunity levels.

SECTION 3—SAFETY/HANDLING OF POWERED SCOOTERS

"Safety and Handling" of the powered scooter requires the close attention of the user. This manual points out the most common procedures and techniques involved in the safe operation and maintenance. It is important to practice and master these safe techniques until you are comfortable in maneuvering the powered scooter.

Use this information only as a "basic" guide. The techniques that are discussed have been used successfully by many. Individual users often develop skills to deal with daily living activities that may differ from those described in this manual. Invacare recognizes and encourages each individual to try what works best for him/her in overcoming obstacles that they may encounter; however, ALL WARNINGS and CAUTIONS given in this manual MUST be followed. Techniques in this manual are a starting point for the new powered scooter user with "safety" as the most important consideration for all.

Stability and Balance

⚠ WARNING

DO NOT make sharp turns in the forward or reverse direction at excessive speed. Failure to observe the warning can cause the scooter to tip over and may result in injury to user and/ or damage to the product.

ALWAYS wear your seat positioning strap.

The seat positioning strap is a positioning belt ONLY. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, belt MUST be replaced immediately.

To assure stability and proper operation of your powered scooter, you MUST, at all times, maintain proper balance. Your powered scooter has been designed to remain upright and stable during normal daily activities.

Percentage of Weight Distribution

⚠ WARNING

DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

Many activities require the scooter owner to reach, bend and transfer in and out of the powered scooter. These movements cause a change to the normal balance, the center of gravity, and the weight distribution of the powered scooter. To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional BEFORE attempting active use of the scooter. Proper positioning is essential for your safety.

Stairways

⚠ WARNING

DO NOT attempt to move an occupied powered scooter between floors using a stairway. Use an elevator to move an occupied powered scooter between floors.

If moving a powered scooter between floors by means of a stairway, the occupant MUST be removed and transported independently of the powered scooter. Extreme caution is advised when moving an UNOCCUPIED powered scooter up or down the stairs. Invacare recommends disassembling the scooter and transporting the components independently up or down the stairs. ONLY use secure, non-detachable parts on each component for hand-hold supports.

DO NOT attempt to lift a powered scooter by any removable (detachable) parts. Lifting by means of removable (detachable) parts may result in injury to the user or assistants or damage to the powered scooter.

Escalators

⚠ WARNING

DO NOT use an escalator to move a powered scooter between floors. Serious bodily injury may occur.

Powered scooter without the batteries can weigh up to 97-106 lbs. Use proper lifting techniques (lift with your legs) to avoid injury.

Follow this procedure for moving the powered scooter between floors when an elevator is not available:

1. Remove the occupant from the powered scooter.
2. Disassemble the scooter. Refer to Transporting the Scooter on page 45.
3. Carefully move the powered scooter components up or down the stairway.
4. Once all the components of the scooter are transported to the desired location reassemble the scooter. Refer to Transporting the Scooter on page 45.

SECTION 4—SAFETY INSPECTION

NOTE: Every six (6) months take your powered scooter to a qualified technician for a thorough inspection and servicing. Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your powered scooter. To operate properly and safely, your powered scooter must be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your powered scooter.

⚠ WARNING

Before performing any maintenance, adjustment or service, turn power OFF and remove key from ignition.

△ CAUTION

As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced.

Safety Inspection Checklists

Initial adjustments should be made to suit your personal body structure needs and preference. Thereafter follow these maintenance procedures:

Inspect/Adjust Initially

- ❑ Ensure powered scooter drives straight (no excessive drag or pull to one side).
- ❑ Check frame for damage and corrosion.
- ❑ Ensure that the brake release lever is easy to engage/disengage.
- ❑ Ensure that tiller adjustment mechanism engages and disengages properly and securely.
- ❑ Ensure that the scooter stops completely when throttle is released (i.e., does not continue to roll as if the throttle is activated).
- ❑ Clean upholstery and armrests (if equipped).
- ❑ If so equipped, ensure armrest pad sits flush against arm tube.
- ❑ Inspect the seat upholstery for rips and tears.
- ❑ If so equipped, inspect seat swivel for release and engagement (seat locks into the determined swivel positions).
- ❑ Inspect for excessive side movement or binding when the drive wheels are raised or turned.
- ❑ Inspect front wheel/fork assembly for proper tension by spinning the wheel. The front wheel should come to a gradual stop.
- ❑ Check the front fork for damage or corrosion.

- ❑ Tighten locknut if the front wheel wobbles noticeably or loosen locknut if the wheel binds to a stop.
- ❑ Ensure that the fork stem bearing set is tight.
- ❑ Ensure that wheel bearings are clean and free of moisture.
- ❑ Ensure that the bolts and fasteners on the caster assemblies are tight.
- ❑ Inspect caster assembly for proper tension by spinning the caster. The caster should come to a gradual stop.
- ❑ Inspect tires for flat spots and wear.
- ❑ Clean molded body shrouds.

Inspect/Adjust Weekly

- ❑ Ensure that tiller adjustment mechanism engages and disengages properly and securely.
- ❑ Ensure that the scooter stops completely when throttle is released (i.e., does not continue to roll as if the throttle is activated).
- ❑ Inspect tires for flat spots and wear.

Inspect/Adjust Monthly

- ❑ Check brake for binding or interference with travel.
- ❑ Inspect front wheel/fork assembly for proper tension by spinning the wheel. The front wheel should come to a gradual stop.
- ❑ Tighten locknut if the front wheel wobbles noticeably or loosen locknut if the wheel binds to a stop.
- ❑ Ensure that the fork stem bearing set is tight.
- ❑ If so equipped, inspect seat swivel for release and engagement (seat locks into the determined swivel positions).
- ❑ Inspect the seat positioning strap for signs of wear. Replace if worn or damaged.
- ❑ Ensure that the buckle on the seat positioning strap latches. Replace if necessary.
- ❑ Verify that the hardware that attaches the seat positioning strap to the seat frame is secure and undamaged. Replace if necessary.
- ❑ Ensure that the bolts and fasteners on the caster assemblies are tight.
- ❑ Inspect caster assembly for proper tension by spinning the caster. The caster should come to a gradual stop.

Inspect/Adjust Periodically

- ❑ Ensure that the powered scooter drives straight (no excessive drag or pull to one side).
- ❑ Check frame for damage and corrosion.
- ❑ Ensure that the brake release lever is easy to engage/disengage.
- ❑ Inspect for no excessive side movement or binding when the drive wheels are raised or turned.
- ❑ Check front fork for damage or corrosion.
- ❑ Ensure wheel bearings are clean and free of moisture.
- ❑ Clean upholstery and armrests (if equipped).
- ❑ Inspect the seat upholstery for rips and tears.
- ❑ If so equipped, ensure armrest pad sits flush against arm tube.

SECTION 5—MAINTENANCE AND TROUBLESHOOTING

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise, injury or damage may occur.

Before performing any maintenance, adjustment or service, turn power OFF and remove key from ignition.

DO NOT overtighten hardware attaching to the frame. This could cause damage to the frame.

When storing scooter for prolonged periods of time, remove batteries. Refer to Removing/Installing the Battery Box on page 41. After reinstallation, always recharge batteries before use. Refer to Charging the Batteries on page 43.

Use care in storage. DO NOT allow any metallic objects to contact the exposed terminals.

Suggested Maintenance Procedures

1. Before using the powered scooter, make sure all nuts and bolts are tight. Check any parts for damage or wear and replace. Check all parts for proper adjustment.
2. Ensure that batteries are properly maintained and charged as required.
3. The wheels and tires should be checked periodically for cracks and wear, and should be replaced by a qualified technician.
4. Regularly check for loose nuts and/or bolts in the front and drive wheels. If loose, have them adjusted by a qualified technician.
5. Clean dirt, dust and grease from exposed components.
6. Periodically have the bearings of the front wheel checked to make sure they are clean and free from moisture.

Troubleshooting

SYMPTOM	PROBABLE CAUSE	SOLUTION
LIMITED DRIVING DISTANCE.	Battery not charged long enough. Batteries weak, won't hold charge.	Charge batteries overnight or ensure eight (8) hours of charge between use. Replace batteries. Refer to Removing/ Installing the Battery Box on page 41.
BATTERIES NOT CHARGING.	Charger not working. Battery connections loose. No current at wall outlet. Bad connection on charger, charger cable, plug or internal wiring problem.	Replace charger. Contact Dealer or a qualified technician. Check all connections. Secure connections. Refer to Removing/Installing the Battery Box on page 41. Switch another wall outlet. Replace charger or internal repairs required. Contact Dealer or a qualified technician.
BATTERIES DRAW EXCESSIVE CURRENT WHEN CHARGING.	Battery failure.	Replace batteries. Refer to Removing/ Installing the Battery Box on page 41.
BATTERY INDICATOR SHOWS THE CHARGE LEVEL IS LOW - TOO SOON AFTER BEING RECHARGED.	Charger not working. Weak batteries.	Have charger checked. Service or replace the charger. Contact Dealer or a qualified technician. Replace batteries. Refer to Removing/ Installing the Battery Box on page 41.
SCOOTER WILL NOT DRIVE.	Brake release lever disengaged. Batteries require charging. Key not fully plugged in. Charger plugged in. Circuit breaker tripped. Fuse blown in battery box. Soft stop engaged. If key is turned off while driving, the scooter holds power for 1.5 seconds slowly decelerating to a stop.	Engage brake release lever. Refer to Engaging/Disengaging the Brake Release Lever on page 27. Charge batteries. Refer to Charging the Batteries on page 43. Ensure key is inserted fully into keyswitch. Unplug charger from scooter. Reset breaker. Refer to Resetting the Circuit Breaker on page 28. If breaker trips again, it may indicate need for internal repairs. Contact Dealer or a qualified technician. Replace fuse. Contact Dealer or a qualified technician. With key in the off position, wait for 30 seconds and turn key to the on position.

SECTION 6—OPERATION OF THE POWERED SCOOTER

Control Panel

NOTE: For the following information, refer to FIGURE 6.1.

1. Speed Control Knob - The speed control knob is located on the top face of the control panel. The Turtle icon represents the slowest speed and the Rabbit icon represents the fastest speed.
2. Battery Charge Display - The battery charge display is located on the top face of the control panel. When the scooter is turned on, the needle points to the remaining power in the batteries. If the needle is on the right side in the GREEN area of the display, it means that the batteries have full power. If the needle is on the left side in the RED area of the display, it means that the batteries do not have enough power and must be charged immediately.

⚠ WARNING

When negotiating ramps, if the throttle control lever is released while in FORWARD motion, the powered scooter will ROLL BACK approximately one (1) foot before brake engages. If the throttle control lever is released while in REVERSE motion the powered scooter will ROLL BACK approximately three (3) feet before brake engages.

3. On/Off Key Switch - The on/off switch is located on left side on the control panel.
4. Horn Switch - The horn switch is located on the front face of the control panel.
5. Throttle Control Lever - The throttle control lever is located behind the handles on the tiller assembly.

Top View of Control Panel

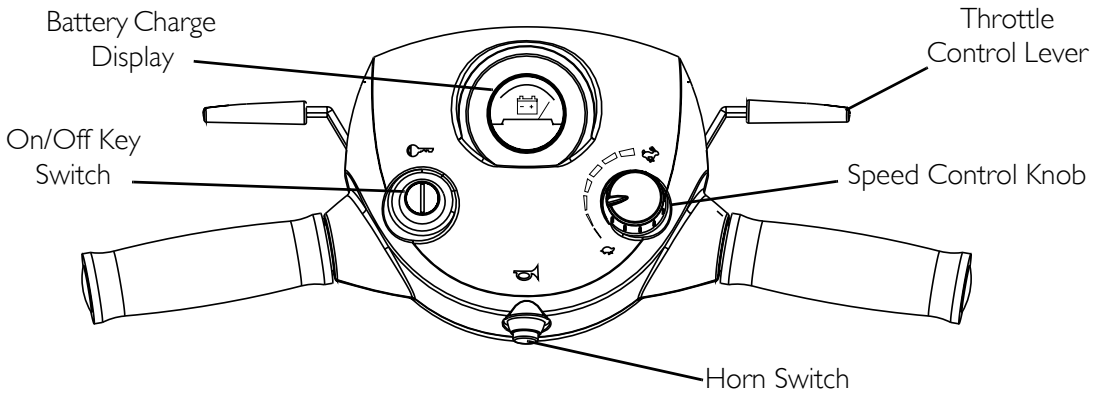


FIGURE 6.1 Control Panel

Operating the Scooter

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

DO NOT make sharp turns in the forward or reverse direction at excessive speed. Failure to observe the warning can cause the scooter to tip over and may result in injury to user and/ or damage to the product.

To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional BEFORE attempting active use of the powered scooter.

Ensure seat is properly locked before attempting transfer into or out of the powered scooter. Attempting unsafe transfers may cause a fall from the powered scooter resulting in bodily injury.

For individuals with balance problems, practice transferring activities WITH AN ASSISTANT in the presence of a qualified healthcare professional. DO NOT attempt to transfer into or out of the powered scooter without assistance.

1. Before operating the powered scooter, review Control Panel on page 25.
2. Charge the batteries. Refer to Charging the Batteries on page 43.
3. Install the battery box on to the scooter. Refer to Removing/Installing the Battery Box on page 41.
4. On Deluxe seat ONLY, transferring to and from the seat can be accomplished in one (1) of two (2) ways:
   - Flipping up the armrest makes entering/exiting easier.
   - Rotating seat to the direction of transfer. Refer to Adjusting 90° Seat Swivel - Deluxe Seat Only on page 32.
5. Once you have transferred into the seat, rotate seat to the forward position and flip arms down (on Deluxe seat only).
6. Adjust the tiller to a comfortable angle. Refer to Adjusting the Tiller Angle on page 35.
7. Adjust speed control knob to the appropriate setting.

NOTE: For driving indoors or on uneven terrain, a slower speed is recommended. For soft terrain or steep inclines (no greater than 8°), a faster speed may be necessary.

8. Insert the key into the ignition and turn it to the on position.

⚠ WARNING

ALWAYS depress the throttle control lever gradually. This will ensure smooth safe starts.

NOTE: Throttle control levers operate such that moving one (1) will also move the opposite side throttle control lever.

9. To operate the scooter, depress the throttle control lever in the following manner:
    - To Move Forward - Pull the right side throttle control lever (towards the user) or push the left side throttle control lever (away from the user).
    - To Move in Reverse - Pull the left side throttle control lever (towards the user) or push the right side throttle control lever (away from the user).
    - To Stop - Release the throttle control lever and the powered scooter will quickly slow down and the brake will engage.

NOTE: To equip the scooter for left hand operation, contact a qualified technician.

The powered scooter is equipped with a "proportional" control meaning that the farther you depress the throttle control lever, the faster the powered scooter travels. With a proportional control, you can drive as slowly in the high speed setting as you can in the low speed setting. Your top speed, however, is limited by the setting of the speed-control knob. For safety reasons, reverse speed is limited to approximately 50% of forward speed.

When first learning to drive, adjust speed control knob for a SLOW speed and try to drive the powered scooter AS SLOWLY as possible by depressing the throttle control lever only slightly. This exercise will help you learn to utilize the full potential of the proportional control and allow you to start and stop smoothly.

Engaging/Disengaging the Brake Release Lever

⚠ WARNING

Ensure that the brake-release lever is in the ENGAGED position before driving. There should be an audible "click" when stopping and starting the scooter.

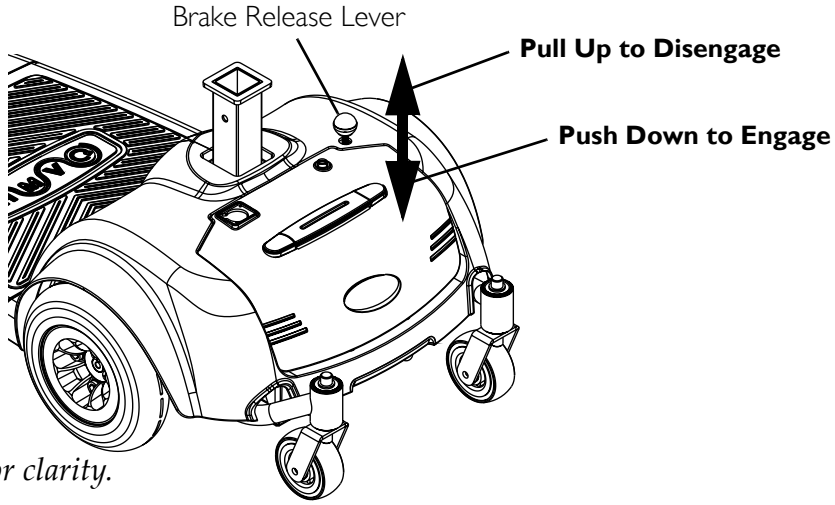
NOTE: For the following procedure, refer to FIGURE 6.2.

The brake release lever manually engages and disengages the brake. The brake release lever is located under the seat on the right side.

The brake must be engaged in normal driving conditions. Activation of the throttle control lever automatically releases the brake so that the powered scooter can drive. Releasing the throttle control lever automatically engages the brake so as to prevent the powered scooter from rolling on its own.

When the brake release lever is disengaged and the key is removed, the powered scooter can be pushed. The powered scooter cannot be driven with the brake in the disengaged position.

1. To engage - Push down the brake release lever.
2. To disengage - Pull up the brake release lever.



NOTE: Seat not shown for clarity.

FIGURE 6.2 Engaging/Disengaging the Brake Release Lever

Resetting the Circuit Breaker

⚠ WARNING

NEVER defeat or bypass the circuit breaker. ONLY replace with a circuit breaker of the same rating.

NOTE: Key must be removed from ignition before resetting circuit breaker.

NOTE: For this procedure, refer to FIGURE 6.3.

1. To reset - press the circuit breaker button located on the battery box.

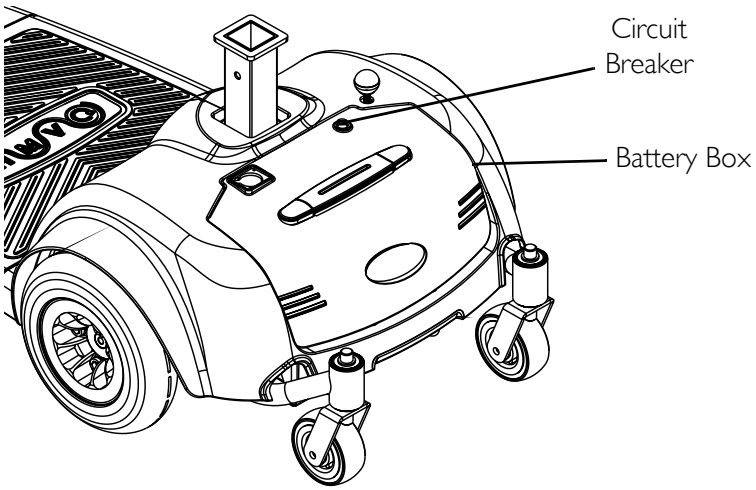


FIGURE 6.3 Resetting the Circuit Breaker

SECTION 7—SEAT AND ARMS

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

Before performing any maintenance, adjustment or service, turn power off and remove key from ignition.

NOTE: Refer to Label Locations on page 11 for pinch point location.

Removing/Installing/Adjusting the Padded Seat

NOTE: For this procedure, refer to FIGURE 7.1.

Removing

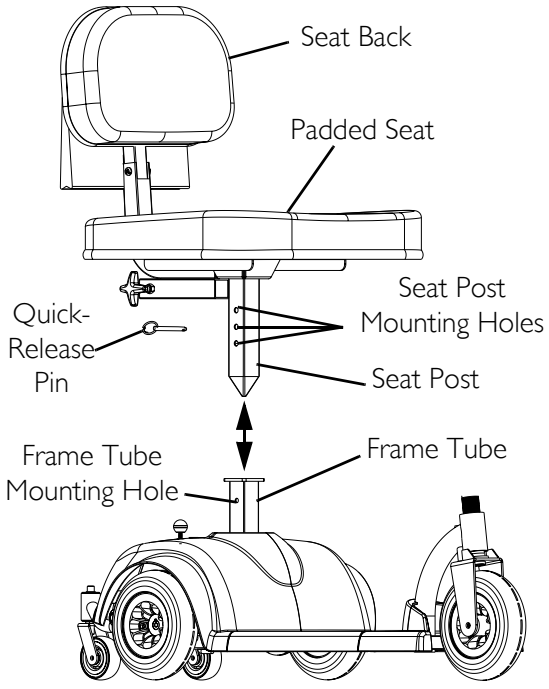
1. Fold down seat back. Refer to Folding/Unfolding the Back - Padded Seat Only on page 30.
2. Remove the quick-release pin that secures the seat post to the frame tube.
3. Lift the seat assembly up and away from the frame tube.

Installing/Adjusting Seat Height

1. Lower the seat post on the seat assembly into the frame tube.
2. Align the frame tube mounting hole with one (1) of three (3) seat post mounting holes to achieve desired seat height.
3. Insert the quick-release pin through both the frame tube and the seat post on the seat assembly.

NOTE: Ensure that the detent ball is visible outside the frame tube.

4. Unfold the seat back. Refer to Folding/Unfolding the Back - Padded Seat Only on page 30.



NOTE: Tiller not shown for clarity.

FIGURE 7.1 Removing/Installing/Adjusting the Padded Seat

Folding/Unfolding the Back - Padded Seat Only

⚠ WARNING

Before use, ensure that the seat back is in the locked position. Otherwise bodily injury and/or damage to the scooter may occur.

NOTE: For this procedure, refer to FIGURE 7.2.

Folding

1. Pull up the back to unlock it from the back mounting tube.
2. Fold down the back.

Unfolding

1. Unfold the back.
2. Push down the back into the back mounting tube until the back locks into position.

NOTE: An audible "click" is heard when the back is pushed into the locked position.

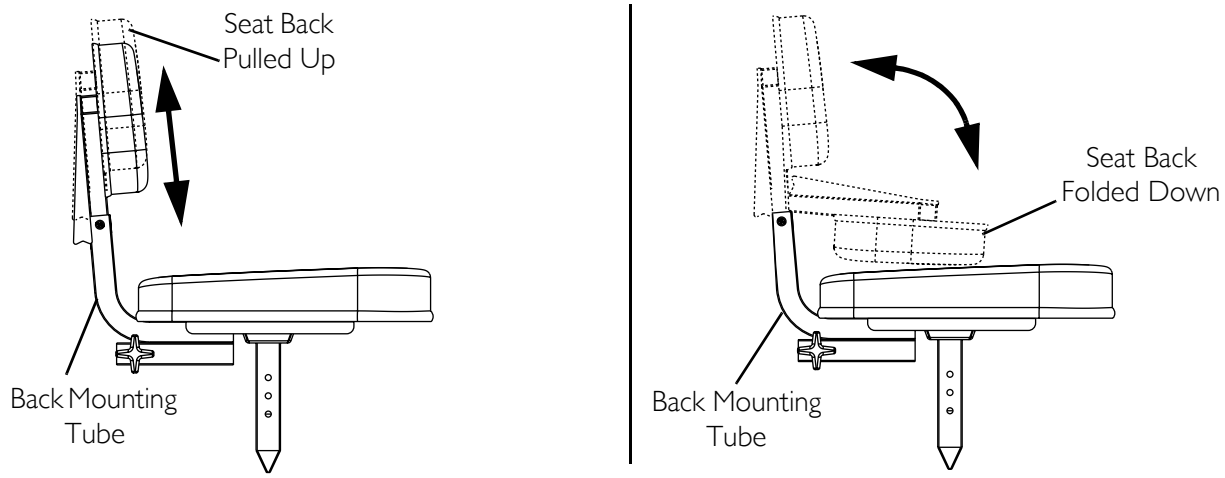


FIGURE 7.2 Folding/Unfolding the Back - Padded Seat Only

Removing/Installing the Deluxe Seat

⚠ WARNING

Before use, ensure that the seat is in the locked position. The seat lever MUST be pulled up to the 90° position to allow the seat to drop into the locked position. Otherwise, a fall from the scooter could occur causing bodily injury and/or damage to the scooter.

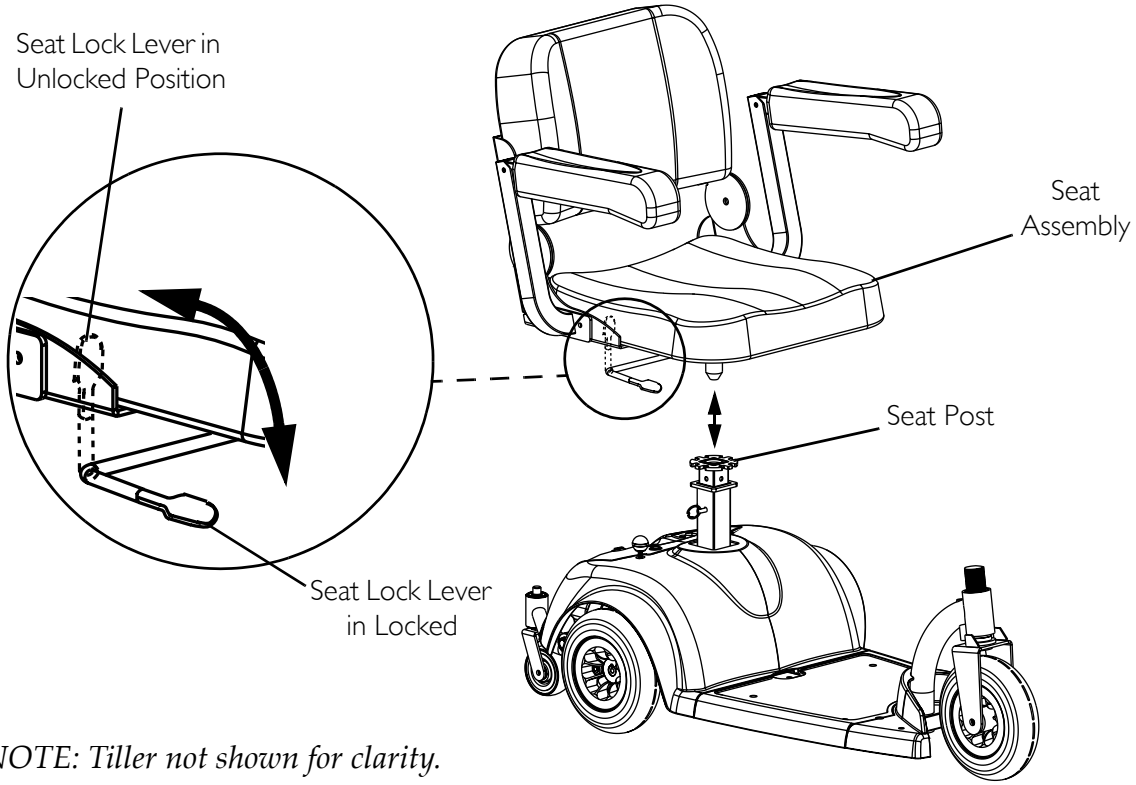
NOTE: For this procedure, refer to FIGURE 7.3.

Removing

1. Fold down seat back.
2. Pull up the seat lock lever to 90°.
3. Lift the seat assembly up and away from the seat post.

Installing

1. Lower the seat assembly onto the seat post.
2. Pull up the seat lock lever to 90° to allow the seat to drop into the locked position.
3. Lift up on seat assembly to ensure the seat is secure.



NOTE: Tiller not shown for clarity.

FIGURE 7.3 - Removing/Installing the Deluxe Seat

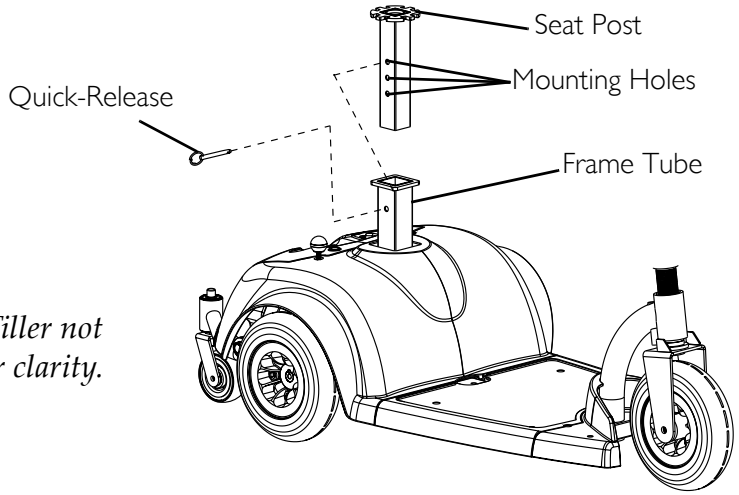
Adjusting Seat Height - Deluxe Seat Only

NOTE: For this procedure, refer to FIGURE 7.4.

1. Remove the seat. Refer to Removing/Installing the Deluxe Seat on page 31.
2. Remove the quick-release pin that secures the seat post to the frame tube.
3. Align the frame tube mounting hole with one (1) of three (3) seat post mounting holes to achieve desired seat height.
4. Insert the quick-release pin through both the frame tube and the seat post.

NOTE: Ensure that the detent ball is visible outside the frame tube.

5. Install the seat. Refer to Removing/Installing the Deluxe Seat on page 31.



NOTE: Tiller not shown for clarity.

FIGURE 7.4 - Adjusting Seat Height - Deluxe Seat Only

Adjusting 90° Seat Swivel - Deluxe Seat Only

⚠ WARNING

Ensure that seat is locked into the forward position BEFORE and DURING operation of the scooter. Otherwise, injury to the user and/or damage to the scooter may result.

△ CAUTION

DO NOT use the seat swivel option when accessories are installed (such as safety flag, crutch/cane holder, etc.) and the seat is mounted in lowest height adjustment position. Otherwise, damage to the scooter may occur.

NOTE: For this procedure, refer to FIGURE 7.5.

1. Slightly pull up on the seat lock lever.

NOTE: The seat locks in position at 90° intervals. The seat is locked when an audible "click" is heard.

2. Rotate the seat to the desired position.
3. Release the seat lock lever to lock the seat in the desired position.

NOTE: Ensure that the seat is locked in position before operating the scooter.

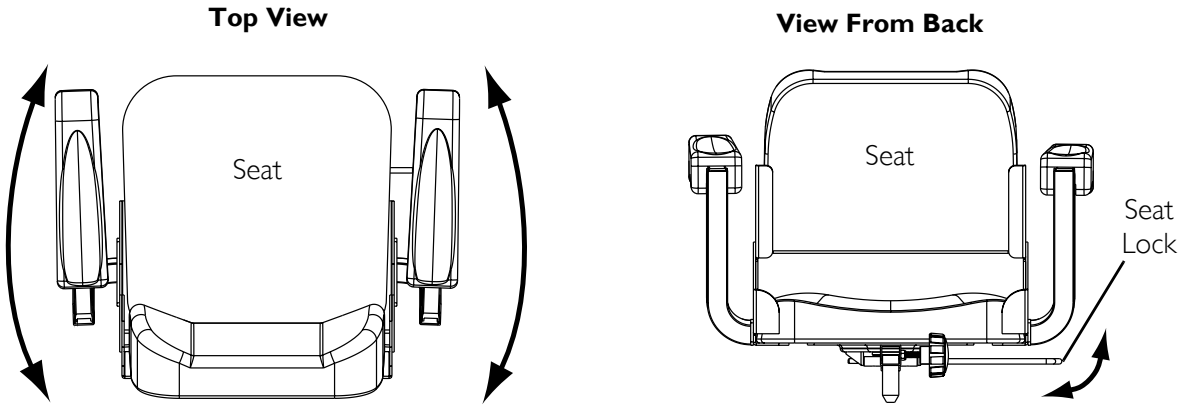


FIGURE 7.5 - Adjusting 90° Seat Swivel - Deluxe Seat Only

Removing/Installing the Arms - Deluxe Seat Only

NOTE: For this procedure, refer to FIGURE 7.6.

Removing

1. Remove the two (2) mounting screws that secure the arm to the seat hinge.
2. Remove the arm.
3. If necessary, repeat steps 1-2 for the other arm.

Installing

NOTE: When installing the arms during set up, the four (4) mounting screws are installed on the seat hinge for shipping purposes.

1. Install the arm on to the seat hinge and secure with the two (2) mounting screws.
2. Repeat STEPS 1-2 for the other arm.

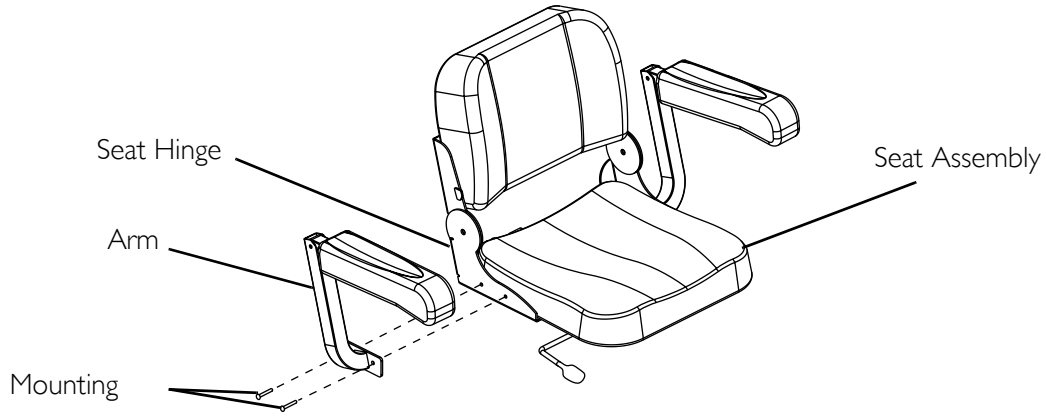


FIGURE 7.6 - Removing/Installing the Arms - Deluxe Seat Only

Replacing Armrest Pads - Deluxe Seat Only

NOTE: For this procedure, refer to FIGURE 7.7.

1. Slide the armrest pad from arm tube and discard.
2. Slide new armrest pad on to the arm tube.
3. Repeat STEPS 1-2 to replace the other armrest pad.

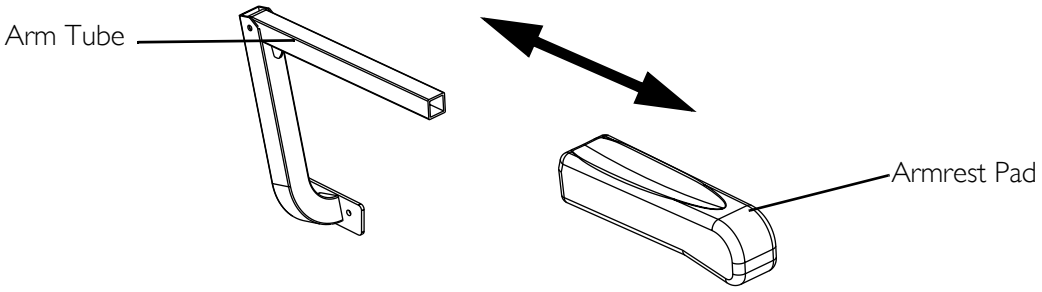


FIGURE 7.7 - Replacing Armrest Pads - Deluxe Seat Only

SECTION 8—TILLER ADJUSTMENT

Adjusting the Tiller Angle

⚠ WARNING

Before performing any maintenance, adjustment or service, turn power OFF and remove key from ignition.

Ensure that tiller is properly adjusted before driving the scooter.

After making ANY tiller angle adjustments and BEFORE use, the tiller MUST be securely locked into position. Otherwise, a fall from the scooter could occur causing bodily injury and/or damage to the scooter. Gently, push/pull against tiller to ensure that the tiller is securely engaged into the adjustment plate.

NOTE: For this procedure, refer to FIGURE 8.1.

NOTE: The powered scooters feature an adjustable tiller. The tiller locks into a position that is most comfortable for you. The tiller can also be folded down for transportation and storage.

1. Rotate the tiller adjustment knob counter-clockwise (towards the user) to loosen the tiller.
2. Push/pull the tiller to the desired angle.
3. Rotate the tiller adjustment knob clockwise (away from the user) to secure the tiller in the new position.
4. Gently, push/pull against tiller to ensure that the tiller is securely engaged into the locking mechanism.

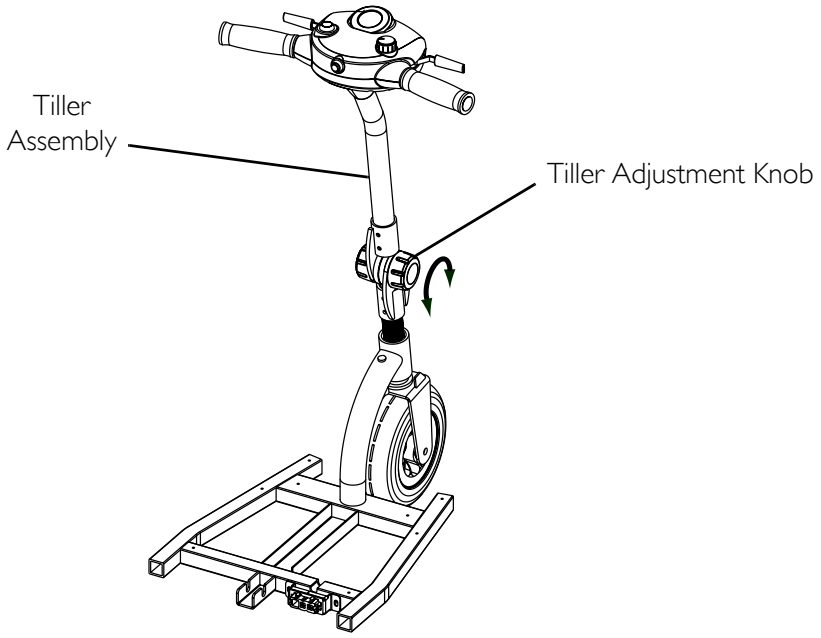


FIGURE 8.1 Adjusting the Tiller Angle

SECTION 9—WHEELS AND CASTERS

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

Before performing any maintenance, adjustment or service, turn power OFF and remove key from ignition.

Removing/Installing the Drive Wheels

NOTE: For this procedure, refer to FIGURE 9.1.

Removing

1. Turn power off and remove the key from the ignition.
2. Remove the seat. Refer to Removing/Installing the Deluxe Seat on page 31.
3. Remove the rear shroud. Refer to Removing/Installing the Rear Shroud on page 43.
4. Place the sub-frame up on blocks so that the drive wheels are OFF the ground.
5. Remove the mounting screw and washer that secure the drive wheel to the drive shaft.
6. Remove the existing drive wheel assembly from the drive shaft.

NOTE: Use a wheel puller if necessary to remove the wheel from the drive shaft.

7. Remove keystock from drive shaft. Set aside.
8. If necessary, repeat STEPS 1-7 to remove other drive wheel.

Installing

1. Place keystock in cutout on drive shaft as shown in FIGURE 9.1.

NOTE: The keystock in the drive shaft MUST lineup with the cutout in the wheel hub.

NOTE: If necessary, use a rubber hammer to gently tap drive wheel completely into position on the drive shaft.

2. Install the drive wheel onto the drive shaft.
3. Secure wheel to drive shaft using a washer and hex nut. Securely tighten.
4. Apply Loctite™ to the mounting screw.
5. Repeat STEPS 1-4 to install the other drive wheel.
6. Install the rear shroud. Refer to Removing/Installing the Rear Shroud on page 43.
7. Install the seat. Refer to Removing/Installing the Deluxe Seat on page 31.

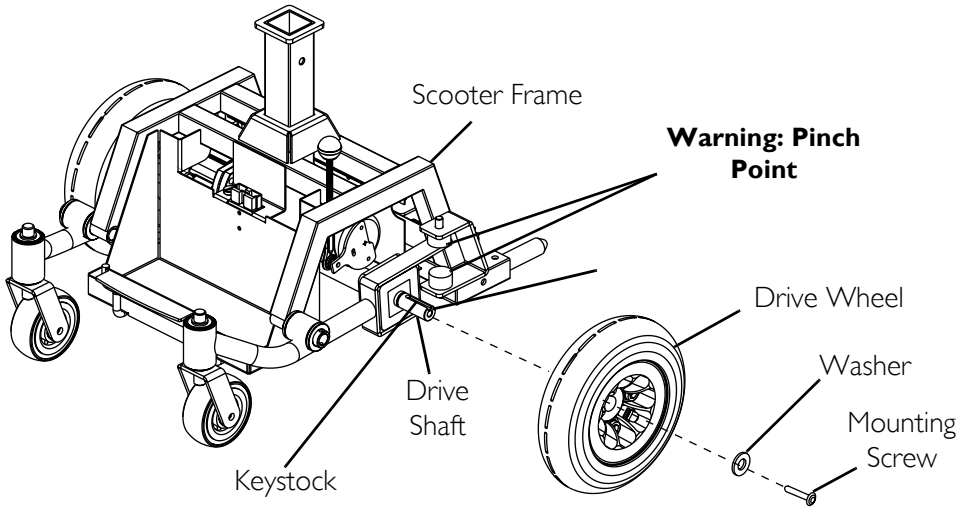


FIGURE 9.1 Removing/Installing the Drive Wheels

Removing/Installing the Front Wheel

NOTE: For this procedure, refer to FIGURE 9.2.

NOTE: Take note of position and orientation of wheel and mounting hardware before removing.

Removing

1. Turn power off and remove the key from the ignition.
2. Place the front of the powered scooter up on blocks so that the front wheel is off the ground.
3. Remove the mounting screw, locknut and two (2) spacers that secure the front wheel to the fork.
4. Remove the front wheel from the fork.

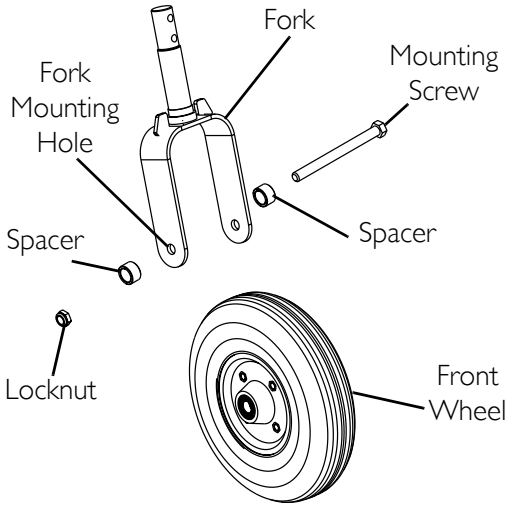


FIGURE 9.2 Removing/Installing the Front Wheel

Installing

1. Align the front wheel with the fork mounting hole.
2. Using the mounting screw, locknut and two (2) spacers, secure the front wheel to the fork.
3. Securely tighten the front wheel mounting hardware.

Removing/Installing the Fork

NOTE: For this procedure, refer to FIGURE 9.3.

Removing

1. Turn the power off and remove the key from the ignition.
2. Remove the seat. Refer to Removing/Installing/Adjusting the Padded Seat on page 29 or Removing/Installing the Deluxe Seat on page 31.
3. Remove the battery box. Refer to Removing/Installing the Battery Box on page 41.
4. Remove the front wheel. Refer to Removing/Installing the Front Wheel on page 37.
5. Remove the two (2) mounting screws, washers and locknut that secure the fork to the tiller angle adjustment bracket.
6. Slide the fork out of the fork mount on the scooter frame.

Installing

1. Slide the fork into the fork mount.
2. Place the tiller angle adjustment bracket on the fork.
3. Install the two (2) mounting screws, washers and locknuts to secure the fork to the tiller angle adjustment bracket. Securely tighten.
4. Reinstall the front wheel. Refer to Removing/Installing the Front Wheel on page 37.
5. Reinstall the battery box. Refer to Removing/Installing the Battery Box on page 41.
6. Reinstall the seat. Refer to Removing/Installing/Adjusting the Padded Seat on page 29 or Removing/Installing the Deluxe Seat on page 31.

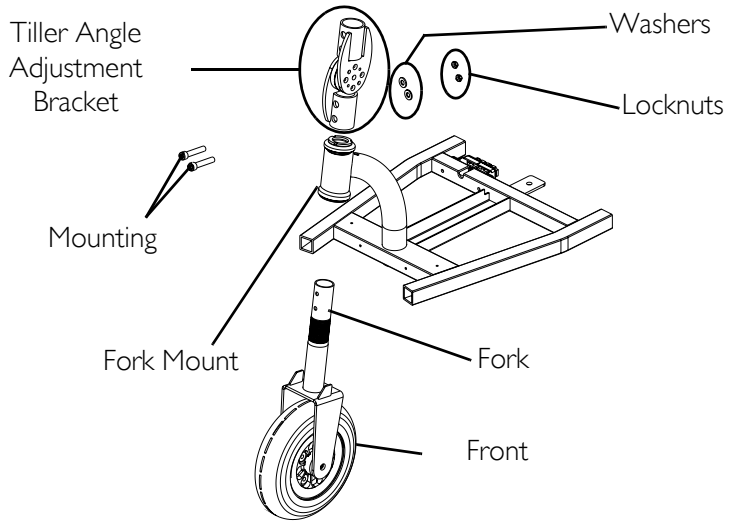


FIGURE 9.3 Removing/Installing the Fork

Removing/Installing the Caster Assemblies

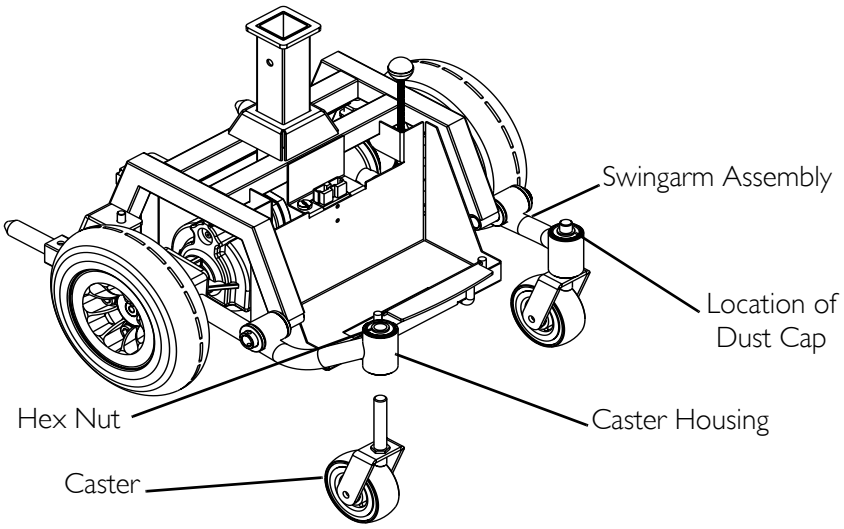
NOTE: For this procedure, refer to FIGURE 9.4.

Removing

1. Remove the dust cap (not shown).
2. Using a wrench, turn the hex nut on the caster assembly counter-clockwise to loosen it.
3. Remove the caster wheel.
4. Repeat STEPS 1-2 to remove the other caster.

Installing

1. Insert the new caster wheel into the caster housing.
2. Turn the hex nut clockwise to securely tighten the caster wheel in place.
3. Reinstall the dust cap (not shown).
4. Repeat STEPS 1-3 to remove the other caster.



NOTE: Dust caps on caster assemblies not shown.

FIGURE 9.4 Removing/Installing the Caster Assemblies

SECTION 10—BATTERIES

⚠ WARNING

Before performing any maintenance adjustment or service, turn power off and remove key from ignition.

NEVER allow any of your tools and/or battery cable(s) to contact BOTH battery terminal(s)/post(s) at the same time. An electrical short may occur and serious personal injury or damage may occur.

The use of rubber gloves and chemical goggles and face shield is recommended when working with batteries.

DO NOT tip the batteries. Keep the batteries in an upright position.

Invacare strongly recommends that battery installation and battery replacement always be done by a qualified technician.

All battery terminals caps (two [2] on the left battery and two [2] on the right battery) MUST be installed prior to use.

△ CAUTION

When connecting the battery cables to the batteries, the battery cables MUST be connected to the battery terminals/posts as shown in FIGURE 10.3 - otherwise damage to the battery may result.

NOTE: If there is battery acid in the bottom of the battery box or on the sides of the battery(ies), apply baking soda to these areas to neutralize the battery acid. Before reinstalling the existing or new battery(ies), clean the baking soda from the battery tray or battery(ies) being sure to avoid contact with skin and eyes. Determine source of contamination. Never install/reinstall a battery with a cracked or otherwise damaged case.

Recommended Battery Type

⚠ WARNING

The warranty and performance specifications contained in this manual are based on the use of deep cycle gel cell batteries. Invacare strongly recommends their use as the power source for this unit.

△ CAUTION

Failure to use the correct battery size and/or voltage may cause damage to the powered scooter and give unsatisfactory performance.

Zoom 220 powered scooter is designed to use two (2) 12 volt, 12 Amp-hour (12AH) batteries.

NOTE: Recommended battery type is spill proof and requires no maintenance except routine charging.

NOTE: Charge batteries daily. DO NOT allow batteries to completely discharge.

NOTE: Invacare recommends that both batteries be replaced if one (1) battery is defective.

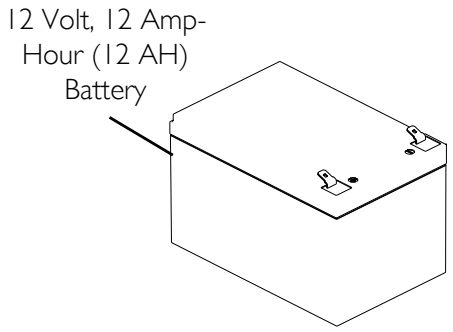


FIGURE 10.1 Recommended Battery Type

Removing/Installing the Battery Box

NOTE: For this procedure, refer to FIGURE 10.2.

Removing

1. Turn power off and remove the key from the ignition.
2. Remove the seat. Refer to Removing/Installing the Deluxe Seat on page 31 or Removing/Installing/Adjusting the Padded Seat on page 29.
3. Hold the battery box handle and lift the battery box up and away from the scooter.

Installing

1. Turn power off and remove the key from the ignition.
2. Remove the seat. Refer to Removing/Installing the Deluxe Seat on page 31 or Removing/Installing/Adjusting the Padded Seat on page 29.
3. Holding the battery box handle, carefully lower the battery box on to the battery tray in the scooter.
4. Press down the battery box to engage the connector on the battery box with the connector on the scooter base.
5. Reinstall the seat. Refer to Removing/Installing the Deluxe Seat on page 31 or Removing/Installing/Adjusting the Padded Seat on page 29.

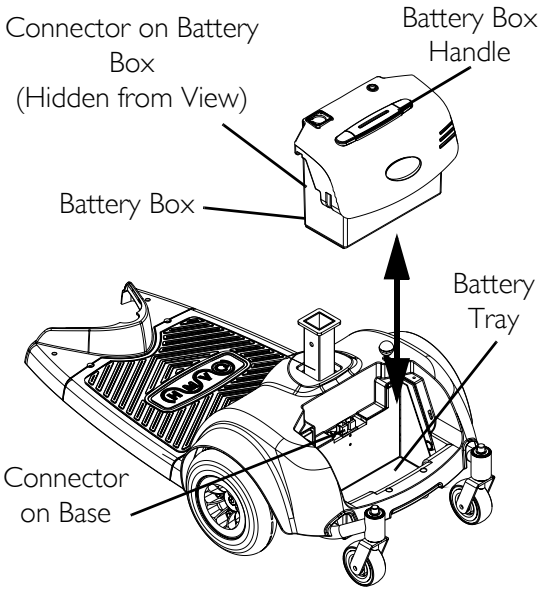


FIGURE 10.2 Removing/Installing the Battery Box

Removing/Installing the Batteries

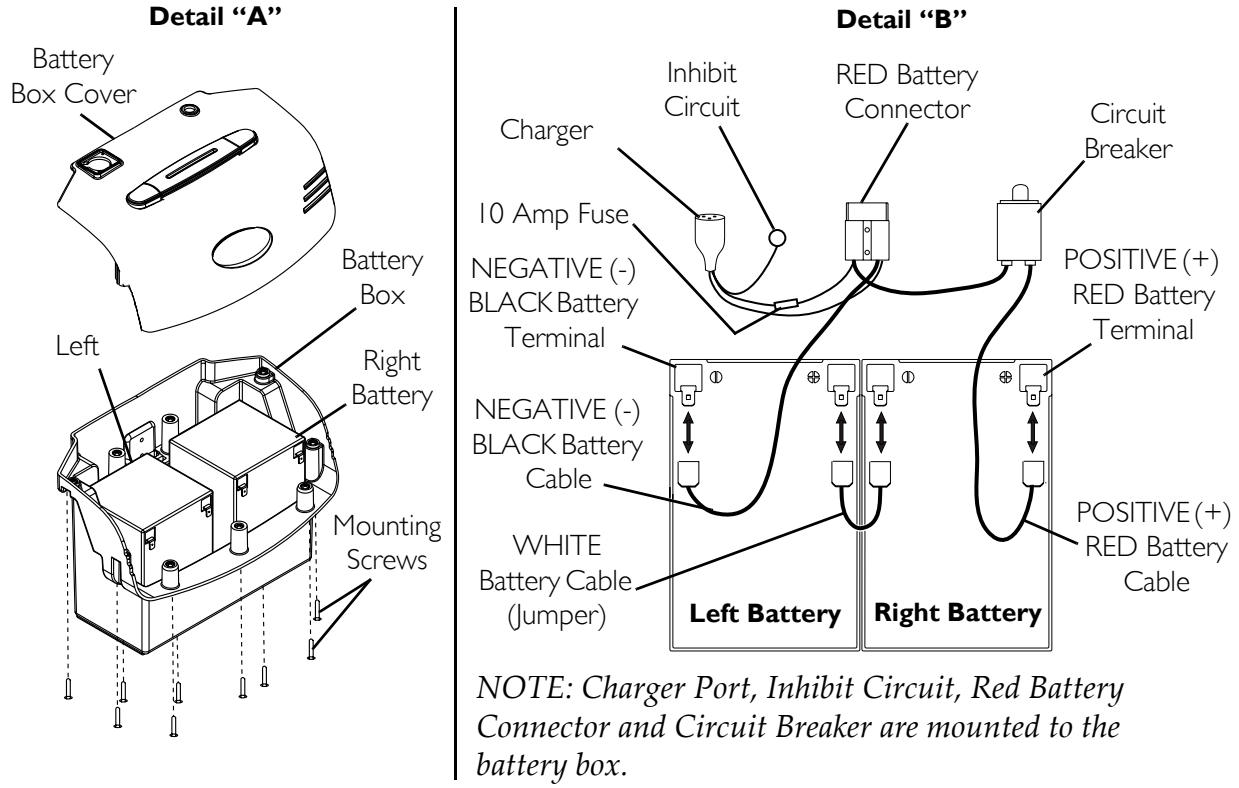
NOTE: For this procedure, refer to FIGURE 10.3.

Removing

1. Remove the seat. Refer to Removing/Installing/Adjusting the Padded Seat on page 29 or Removing/Installing the Deluxe Seat on page 31.
2. Remove the battery box from the scooter. Refer to Removing/Installing the Battery Box on page 41.
3. Remove the nine (9) mounting screws that secure the battery box top to the battery box (Detail "A" of FIGURE 10.3).
4. Disconnect the wiring harness from the batteries by holding the connectors and pulling them in the following order (Detail "B" of FIGURE 10.3):
   A. NEGATIVE (-) BLACK battery cable from the NEGATIVE (-) battery terminal on the left battery.
   B. POSITIVE (+) RED battery cable from the POSITIVE (+) battery terminal on the right battery.
   C. WHITE battery cable (Jumper) from the POSITIVE (+) battery terminal on the left battery and the NEGATIVE (-) battery terminal on the right battery.
5. Remove the batteries from battery box by lifting the batteries out.

Installing

1. Install the two (2) new batteries into the battery box.
2. Connect the wiring harness to the batteries in the following order (Detail "B" of FIGURE 10.3):
   A. NEGATIVE (-) BLACK battery cable to the NEGATIVE (-) battery terminal on the left battery.
   B. POSITIVE (+) RED battery cable to the POSITIVE (+) battery terminal on the right battery.
   C. WHITE battery cable (Jumper) to the POSITIVE (+) battery terminal on the left battery and the NEGATIVE (-) battery terminal on the right battery.
3. Replace the top of the battery box and secure with the nine (9) mounting screws (Detail "A" of FIGURE 10.3). Securely tighten.
4. Reinstall the battery box on to the scooter frame. Refer to Removing/Installing the Battery Box on page 41.
5. Reinstall the seat. Refer to Removing/Installing/Adjusting the Padded Seat on page 29 or Removing/Installing the Deluxe Seat on page 31.



NOTE: Charger Port, Inhibit Circuit, Red Battery Connector and Circuit Breaker are mounted to the battery box.

FIGURE 10.3 Removing/Installing the Batteries

Charging the Batteries

⚠ WARNING

NEVER attempt to recharge the batteries by attaching cables directly to the battery terminals or clamps.

DO NOT attempt to recharge the batteries and operate the powered scooter at the same time.

Only use the provided charger with this product.

△ CAUTION

New batteries MUST be fully charged prior to initial use of the powered scooter.

DO NOT sit in the scooter while recharging the batteries.

ALWAYS charge new batteries before initial use or battery life will be reduced.

As a general rule, you should recharge your batteries as frequently as possible to assure the longest possible life and to minimize required charging time. Plan to recharge them when you do not anticipate using the powered scooter.

The range per battery charge using recommended batteries should be approximately five (5) to nine (9) hours of typical operation. Extensive use on inclines may substantially reduce per charge mileage.

⚠ WARNING

If the circuit breaker trips repeatedly, IMMEDIATELY unplug charger and contact dealer or a qualified technician.

NOTE: For this procedure, refer to FIGURE 10.4.

NOTE: The powered scooter is designed with an electrical lockout to prevent it from being driven while the charger is plugged into an outlet.

NOTE: Always charge the batteries completely until the Battery Charge Display needle is in the GREEN area.

1. Slide the charger port cap (located on the battery box) to one side.
2. Plug the charger connector into the charger port located on the battery box (FIGURE 10.4*)*.
3. Plug the charger power cord into 110-volt wall outlet.

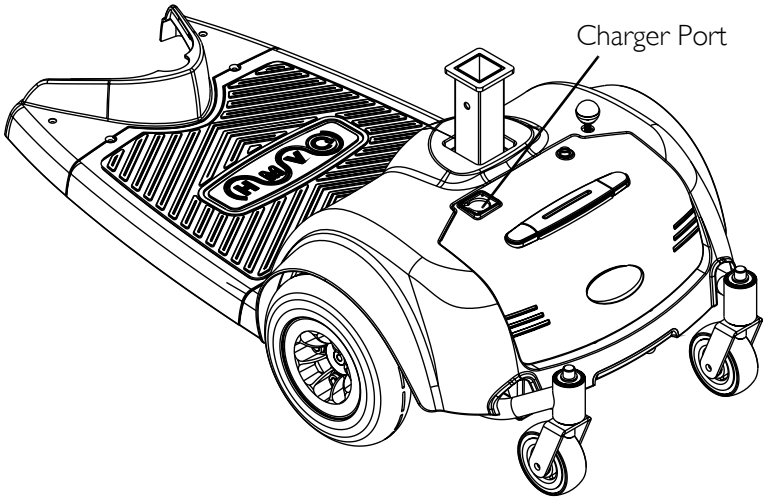


FIGURE 10.4 Charging the Batteries

SECTION 11—TRANSPORTING

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

Before performing any maintenance, adjustment or service, turn power off and remove key from ignition.

DO NOT lift the scooter by the rear shroud - otherwise damage to the scooter may occur.

Transporting the Scooter

NOTE: For this procedure, refer to FIGURE 11.1.

Disassembling

1. Turn power off and remove the key from the ignition.
2. Ensure that the brake release lever is engaged. Refer to Engaging/Disengaging the Brake Release Lever on page 27.
3. Remove the seat. Refer to Removing/Installing the Deluxe Seat on page 31 or Removing/Installing/Adjusting the Padded Seat on page 29.
4. Remove the battery box. Refer to Removing/Installing the Battery Box on page 41.
5. Flip up the frame lock pin located on under the flap on the floor mat (not shown).
6. Hold the frame post in one hand and the tiller in the other hand and pull apart the rear and front frame assemblies.
7. Fold tiller down to lowest locked position. Refer to Adjusting the Tiller Angle on page 35.

Assembling

⚠ WARNING

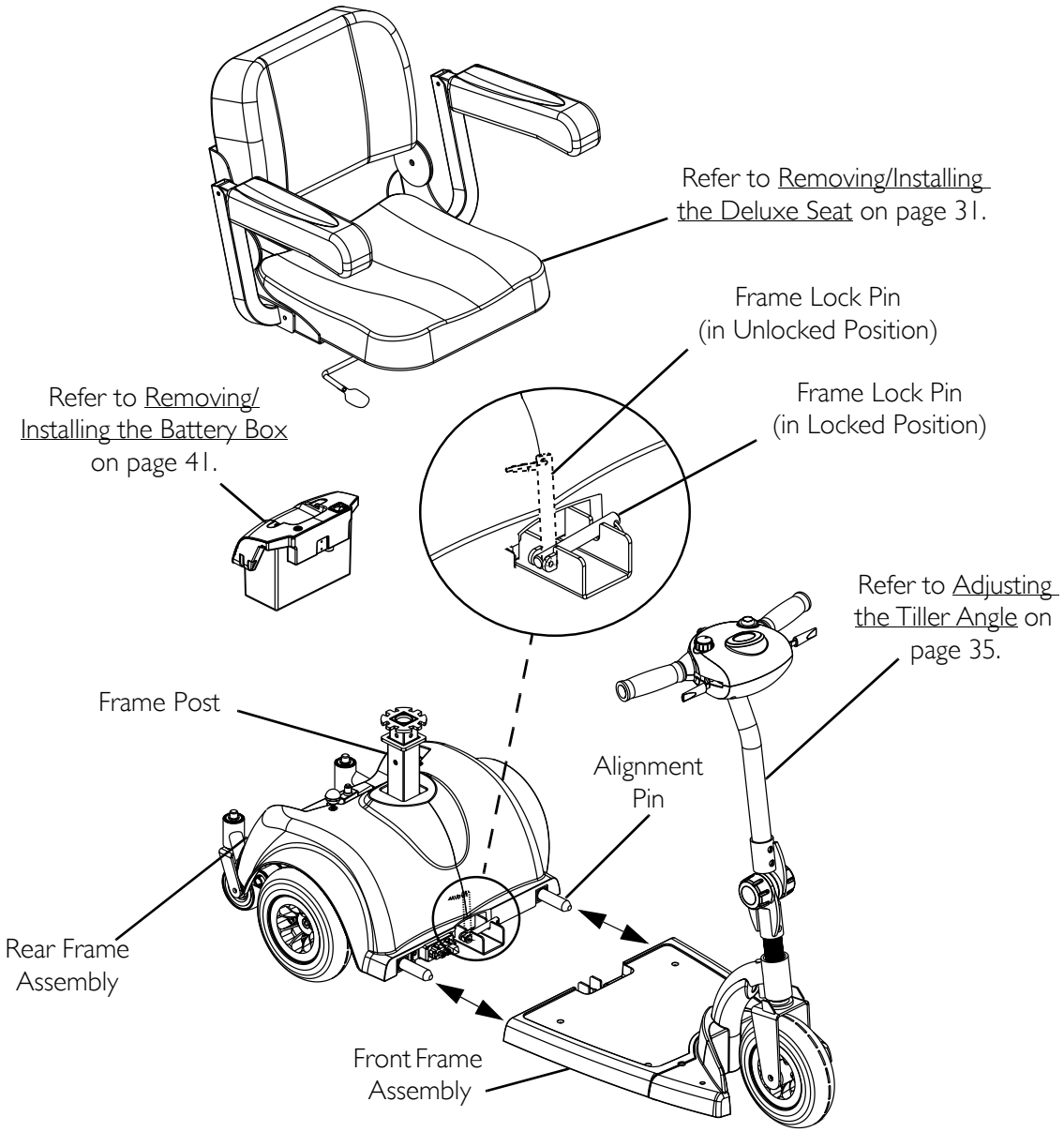
BEFORE use, ensure that the frame lock pin is in the LOCKED (horizontal) position securing the front and rear frame assemblies together. Otherwise injury and/or damage may occur.

1. Unfold tiller. Refer to Adjusting the Tiller Angle on page 35.
2. Flip up the frame lock pin.
3. Hold the tiller in one hand and the front frame assembly in the other hand and align the front frame assembly with the alignment pins on the rear frame assembly.

4. Grasp the front frame assembly on either side and slide the front frame assembly onto the rear frame assembly.

NOTE: Lifting the front frame assembly slightly may help slide the front and rear frame assemblies together.

5. Flip down the frame lock pin to the horizontal, locked position.
6. Install the battery box. Refer to Refer to Removing/Installing the Battery Box on page 41.
7. Install the seat. Refer to Removing/Installing the Deluxe Seat on page 31 or Removing/Installing/Adjusting the Padded Seat on page 29.


Refer to Removing/Installing the Deluxe Seat on page 31.
Frame Lock Pin (in Unlocked Position)
Frame Lock Pin (in Locked Position)
Refer to Removing/Installing the Battery Box on page 41.
Refer to Adjusting the Tiller Angle on page 35.
Frame Post
Alignment Pin
Rear Frame Assembly
Front Frame Assembly

NOTE: Scooter with Deluxe Seat option shown. Scooter with Padded Seat option disassembles in the same way.

FIGURE 11.1 Transporting the Scooter

SECTION 12—SCOOTER ACCESSORIES

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

Before performing any maintenance, adjustment or service, turn power off and remove key from ignition.

NOTE: The crutch/cane holder, safety flag, rear mounted basket and oxygen holder all install into the accessory tube; ONLY one (1) of these may be installed at a time.

Installing/Removing the Crutch/Cane Holder

⚠ WARNING

The installation of the crutch/cane holder onto the back of the scooter seat significantly increases the length of the scooter. When turning the scooter or swiveling the scooter seat, it is important to take note of this increased length - otherwise, injury and/or damage to the surrounding property may result.

NOTE: For this procedure, refer to FIGURE 12.1.

Installing

1. Install the crutch/cane holder into the accessory tube located on the back of the seat.
2. Install the mounting knob to secure the crutch/cane holder in place. Securely tighten.
3. Align the slot on the base with the hook on the crutch/cane holder and slide base down into position.

Removing

1. Remove the crutch/cane holder from the accessory tube.
2. Remove the mounting knob that secures the crutch/cane holder in place.
3. Remove the crutch/cane holder from the accessory tube.

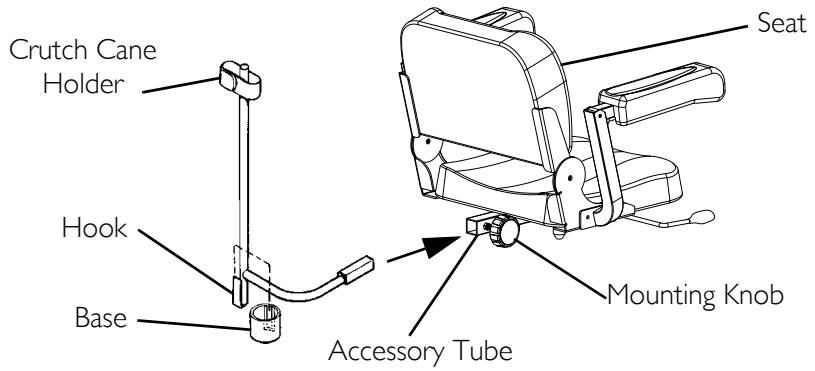


FIGURE 12.1 Installing/Removing the Crutch/Cane Holder

Installing/Removing the Safety Flag

NOTE: For this procedure, refer to FIGURE 12.2.

⚠ WARNING

The installation of the safety flag onto the back of the scooter seat significantly increases the length of the scooter. When turning the scooter or swiveling the scooter seat, it is important to take note of this increased length - otherwise, injury and/or damage to the surrounding property may result.

Installing

1. Install the bracket into the accessory tube located on the back of the seat.
2. Install mounting knob to secure the bracket in place. Securely tighten.
3. Install safety flag into bracket.

Removing

1. Remove the safety flag from the bracket.
2. Remove the mounting knob that secures the bracket in place.
3. Remove the bracket from the accessory tube located on the back of the seat.

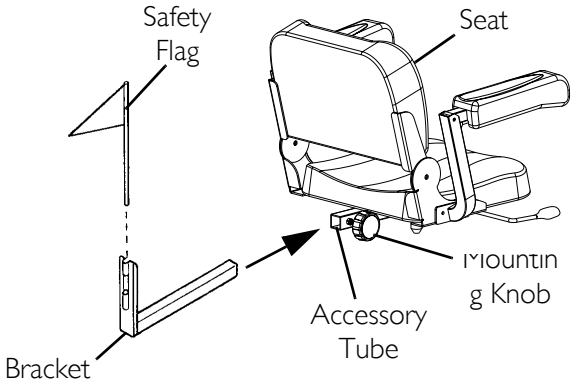


FIGURE 12.2 Installing/Removing the Safety Flag

Installing/Removing/Using the Walker Holder

⚠ INSTALLATION WARNINGS

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely.

The installation of the walker holder onto the back of the scooter seat significantly increases the length of the scooter. When turning the scooter or swiveling the scooter seat, it is important to take note of this increased length - otherwise, injury and/or damage to the surrounding property may result.

Installing/Removing the Walker Holder

NOTE: Reverse this procedure to remove the walker holder.

NOTE: For this procedure, refer to FIGURE 12.3.

1. If necessary, loosen but DO NOT remove the mounting knob.
2. Install the walker holder into the accessory tube.
3. Thread the mounting knob into the welded nut on the accessory tube. Securely tighten.

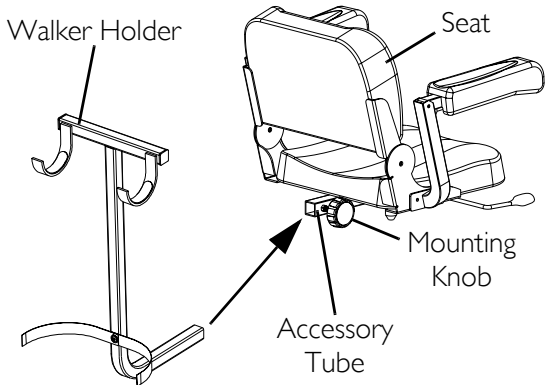


FIGURE 12.3 Installing/Removing the Walker Holder

Using the Walker Holder

NOTE: For this procedure, refer to FIGURE 12.4.

1. Fold walker. Refer to walker instructions.

NOTE: Walker MUST be folded before using walker holder.

2. Hang folded walker on walker holder hooks.
3. Secure walker with hook and loop straps.

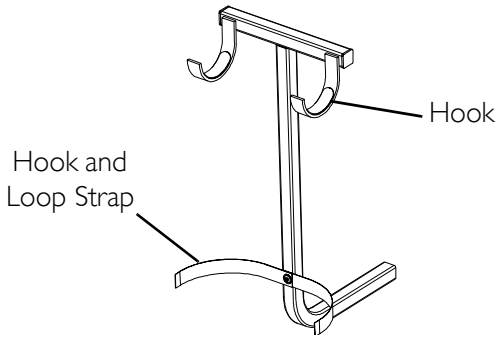


FIGURE 12.4 Using the Walker Holder

Installing/Removing the Rear Mounted Basket

NOTE: For this procedure, refer to FIGURE 12.5.

⚠ WARNING

The rear mounted basket is rated for a maximum capacity of ten (10) lbs.

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely.

The installation of the basket and basket bracket onto the back of the scooter seat increases the length of the scooter. When turning the scooter or swiveling the scooter seat, it is important to take note of this increased length - otherwise, injury and/or damage to surrounding property may occur.

Installing

1. Loosen but DO NOT remove the mounting knob.
2. Install the basket bracket into the accessory tube.
3. Thread the mounting knob into the welded nut on the accessory tube. Securely tighten.
4. Align the mounting clips on the bracket with the slots on the basket and slide the basket DOWN securely into position.

Removing

1. Remove the basket from the bracket.
2. Loosen the mounting knob.
3. Remove the basket bracket from the accessory tube.
4. Tighten the mounting knob.

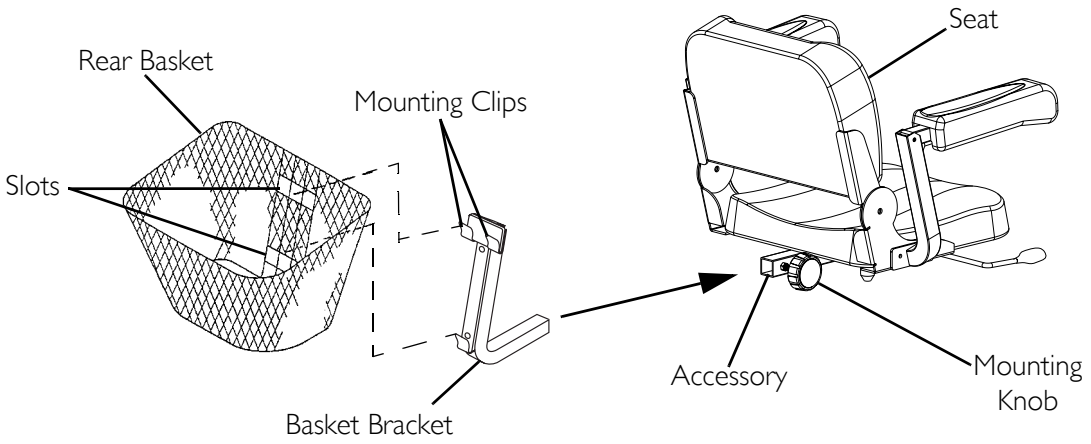


FIGURE 12.5 Installing/Removing the Rear Mounted Basket

LIMITED WARRANTY

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants this product to be free from defects in materials and workmanship for a period of eighteen (18) months on electrical and transaxle and three (3) years on frame from date of purchase. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you do not receive satisfactory warranty service, please write directly to Invacare at the address on the bottom of the back cover. Provide dealer's name address, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED, PRODUCTS SUBJECT TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE, COMMERCIAL OR INSTITUTIONAL USE, PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT INCLUDING, BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL, AND SUCH EVALUATION WILL BE SOLELY DETERMINED BY INVACARE. THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THESE INSTRUCTIONS. A CHANGE IN OPERATING NOISE, PARTICULARLY RELATIVE TO MOTORS AND GEARBOXES DOES NOT CONSTITUTE A FAILURE. ALL SUCH DEVICES WILL EXHIBIT A CHANGE IN OPERATING NOISE DUE TO AGING.

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